Please provide the following information, and submit to the NOAA DM Plan Repository.

Reference to Master DM Plan (if applicable)

As stated in Section IV, Requirement 1.3, DM Plans may be hierarchical. If this DM Plan inherits provisions from a higher-level DM Plan already submitted to the Repository, then this more-specific Plan only needs to provide information that differs from what was provided in the Master DM Plan.

URL of higher-level DM Plan (if any) as submitted to DM Plan Repository:

1. General Description of Data to be Managed

1.1. Name of the Data, data collection Project, or data-producing Program:
Aquaculture

1.2. Summary description of the data:
Aquaculture, also known as aquafarming, is the farming of aquatic organisms such as fish, crustaceans, mollusks, and aquatic plants. The presence and location of aquaculture sites were derived from multiple state websites and include only those in coastal and marine saltwater areas. The following states are included in this layer: Alaska, California, Connecticut, Florida, Louisiana, Maine, Massachusetts, New Hampshire, New Jersey, New York, North Carolina, Oregon, Rhode Island, Virginia and Washington. The MarineCadastre.gov data team is continuing to work with aquaculture coordinators in each coastal state to fill current data gaps and improve the accuracy of existing data sets. As such, these data should be considered a work in progress. The user is encouraged to read the metadata of each individual state's data carefully, since geometry, attribute details, and timeliness are not necessarily consistent among data sets used to develop this layer. The naming conventions for the type of aquaculture site (license versus lease) were retained as they are defined and administered by the individual states. The layer is shown by the area type: finfish, shellfish, and other (algae, crustacean, or unknown farming). Details of each state's data source are described in the data-processing section. The data are not a complete collection of aquaculture locations within the U.S., nor are the locations to be considered exact. These data are intended for coastal and ocean planning.

1.3. Is this a one-time data collection, or an ongoing series of measurements?
One-time data collection

1.4. Actual or planned temporal coverage of the data:
2016-10

1.5. Actual or planned geographic coverage of the data:
W: -163.106424, E: -66.699052, N: 61.254788, S: 21.447197

1.6. Type(s) of data:
(e.g., digital numeric data, imagery, photographs, video, audio, database, tabular data, etc.)

Map (digital)

1.7. Data collection method(s):
(e.g., satellite, airplane, unmanned aerial system, radar, weather station, moored buoy, research vessel, autonomous underwater vehicle, animal tagging, manual surveys, enforcement activities, numerical model, etc.)

1.8. If data are from a NOAA Observing System of Record, indicate name of system:

1.8.1. If data are from another observing system, please specify:

2. Point of Contact for this Data Management Plan (author or maintainer)

2.1. Name:

2.2. Title:
Metadata Contact

2.3. Affiliation or facility:

2.4. E-mail address:

2.5. Phone number:

3. Responsible Party for Data Management
Program Managers, or their designee, shall be responsible for assuring the proper management of the data produced by their Program. Please indicate the responsible party below.

3.1. Name:

3.2. Title:
Data Steward

4. Resources
Programs must identify resources within their own budget for managing the data they produce.

4.1. Have resources for management of these data been identified?

4.2. Approximate percentage of the budget for these data devoted to data management (specify percentage or "unknown"):

5. Data Lineage and Quality

NOAA has issued Information Quality Guidelines for ensuring and maximizing the quality, objectivity, utility, and integrity of information which it disseminates.

5.1. Processing workflow of the data from collection or acquisition to making it publicly accessible

(describe or provide URL of description):

Process Steps:

- 2016-06-01 00:00:00 - + Download datasets from each specified source (some are not available online, and must be obtained from source contact) + Project datasets into NAD 83 and import into a file geodatabase + Alaska data initially contained 2 polygon feature classes and 1 line feature class. The line feature class was converted to polygon and the three were merged. + California data was obtained via email, as well as Catalina Sea Ranch bounding coordinates. After converting the Catalina point feature class to polygon, it was merged with the other California data. + Connecticut data was obtained through ArcGIS online. The Connecticut Sea Grant Extension Program with University of Connecticut Center for Land Use Education and Research hosts a REST page for shellfish data, which was saved, uploaded, and then converted to multiple feature classes. Commercial Shellfish Beds (Municipal Waters - 2014) (9), Commercial Shellfish Beds (State Waters - 2014) (10), Recreational Shellfish Beds (2014) (11), and Designated Natural Shellfish Beds (2014) (12) were Merged and Unioned, and any gaps/ overlaps were corrected. This data layer was then overlaid with Shellfish Classification (Areas) (14), and boundary lines were cleaned up and shellfish classification information was added to data layer. + Florida data initially was 3 separate feature class downloads from Florida Fish and Wildlife Research Institute. These three were merged and attributes were cleaned up. + Maine data was obtained via email from the Maine DMR. + Massachusetts data was obtained by downloading the Aquaculture Sites in Planning Area layer from the Massachusetts DMR and dissolving features based on available attributes. + New Hampshire data was obtained via email, but is also available online from the New Hampshire Department of Environmental Services. + New York data was downloaded from the Northeast Ocean Data Portal and was overlaid with the Shellfish Map Service created by the Suffolk County Department of Economic Development and Planning. The Temporary Marine Area Use Assignments (2), Oyster Grants (3), and 10 Acre Lease Area (4) layers were the focus, and the coordinates from the Temporary Marine Area Use Assignments (2) and 10 Acre Lease Area (4) were used to plot the data. + Rhode Island data was downloaded from the Northeast Ocean Data Portal and was overlaid with the shellfish13 shapefile downloaded from Rhode Island Geographic Information System, and boundary lines were cleaned up and shellfish classification information was added to data layer. + Washington data was thinned down by selecting only coastal Washington areas where type in ('Marine Bedland', 'Marine Tideland') or designation in ('Oyster Reserve', 'Oyster Tract'). + The Marine Farm Culture Area layers from the Approach, Coastal, General, and Harbor scale bands

were downloaded from the NOAA OCS ENC Direct to GIS. These were Merged and Unioned, and any gaps/ overlaps were corrected. + The Aids to Navigation layer was downloaded from the Marine Cadastre and data was thinned by selecting features that contained "aquaculture", "pen", "mussel", or "oyster" in the Aid Name or Structure Remarks field. + All feature classes were Merged and Unioned. Shapes of overlapping features were adjusted to include geometries from multiple sources and the info from the multiple source attributes were retained. + Delete all superfluous fields. + Check geometry and project data into WGS 1984 Auxiliary Sphere
- 2016-12-01 00:00:00 - Deleted personally identifiable information and other sensitive information from attributes in Contact and Status fields per NOAA NCCOS request. Due to needed updates to the spatial data, the Washington state aquaculture layer has temporarily been removed.
- 2018-07-24 00:00:00 - Added features to West Coast from Pacific Shellfish Institute, Oregon and Washington.

5.1.1. If data at different stages of the workflow, or products derived from these data, are subject to a separate data management plan, provide reference to other plan:

5.2. Quality control procedures employed (describe or provide URL of description):

6. Data Documentation

The EDMC Data Documentation Procedural Directive requires that NOAA data be well documented, specifies the use of ISO 19115 and related standards for documentation of new data, and provides links to resources and tools for metadata creation and validation.

6.1. Does metadata comply with EDMC Data Documentation directive?

No

6.1.1. If metadata are non-existent or non-compliant, please explain:

Missing/invalid information:
- 1.7. Data collection method(s)
- 2.1. Point of Contact Name
- 2.4. Point of Contact Email
- 3.1. Responsible Party for Data Management
- 4.1. Have resources for management of these data been identified?
- 4.2. Approximate percentage of the budget for these data devoted to data management
- 5.2. Quality control procedures employed
- 7.1. Do these data comply with the Data Access directive?
- 7.1.1. If data are not available or has limitations, has a Waiver been filed?
- 7.1.2. If there are limitations to data access, describe how data are protected
- 7.2. Name of organization of facility providing data access

- 7.2.1. If data hosting service is needed, please indicate
- 7.3. Data access methods or services offered
- 7.4. Approximate delay between data collection and dissemination
- 8.1. Actual or planned long-term data archive location
- 8.3. Approximate delay between data collection and submission to an archive facility
- 8.4. How will the data be protected from accidental or malicious modification or deletion prior to receipt by the archive?

6.2. Name of organization or facility providing metadata hosting:

NMFS Office of Science and Technology

6.2.1. If service is needed for metadata hosting, please indicate:

6.3. URL of metadata folder or data catalog, if known:

https://www.fisheries.noaa.gov/inport/item/53129

6.4. Process for producing and maintaining metadata

(describe or provide URL of description):

Metadata produced and maintained in accordance with the NOAA Data Documentation Procedural Directive: https://nosc.noaa.gov/EDMC/DAARWG/docs/EDMC_PD-Data_Documentation_v1.pdf

7. Data Access

NAO 212-15 states that access to environmental data may only be restricted when distribution is explicitly limited by law, regulation, policy (such as those applicable to personally identifiable information or protected critical infrastructure information or proprietary trade information) or by security requirements. The EDMC Data Access Procedural Directive contains specific guidance, recommends the use of open-standard, interoperable, non-proprietary web services, provides information about resources and tools to enable data access, and includes a Waiver to be submitted to justify any approach other than full, unrestricted public access.

7.1. Do these data comply with the Data Access directive?

7.1.1. If the data are not to be made available to the public at all, or with limitations, has a Waiver (Appendix A of Data Access directive) been filed?

7.1.2. If there are limitations to public data access, describe how data are protected from unauthorized access or disclosure:

7.2. Name of organization of facility providing data access:

7.2.1. If data hosting service is needed, please indicate:

7.2.2. URL of data access service, if known:
ftp://ftp.coast.noaa.gov/pub/MSP/Aquaculture.zip
https://marinecadastre.gov/data

7.3. Data access methods or services offered:

7.4. Approximate delay between data collection and dissemination:

7.4.1. If delay is longer than latency of automated processing, indicate under what authority data access is delayed:

8. Data Preservation and Protection

The NOAA Procedure for Scientific Records Appraisal and Archive Approval describes how to identify, appraise and decide what scientific records are to be preserved in a NOAA archive.

8.1. Actual or planned long-term data archive location:
(Specify NCEI-MD, NCEI-CO, NCEI-NC, NCEI-MS, World Data Center (WDC) facility, Other, To Be Determined, Unable to Archive, or No Archiving Intended)

8.1.1. If World Data Center or Other, specify:

8.1.2. If To Be Determined, Unable to Archive or No Archiving Intended, explain:

8.2. Data storage facility prior to being sent to an archive facility (if any):
Office for Coastal Management - Charleston, SC

8.3. Approximate delay between data collection and submission to an archive facility:

8.4. How will the data be protected from accidental or malicious modification or deletion prior to receipt by the archive?
Discuss data back-up, disaster recovery/contingency planning, and off-site data storage relevant to the data collection

9. Additional Line Office or Staff Office Questions

Line and Staff Offices may extend this template by inserting additional questions in this section.